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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/582,632

06/12/2006

Dominique Moreau

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EXAMINER

O'HARA, BRIAN M

ART UNIT

PAPER NUMBER

3644

MAIL DATE

DELIVERY MODE

07/21/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/582,632	MOREAU, DOMINIQUE	
	Examiner	Art Unit	
	Brian M. O'Hara	3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 March 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 19, 20, 24, 25, and 27-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Syms et al. (US Patent 4,746,082 A) in view of Woodland (US 5,927,648 A).** Syms et al. discloses an onboard modular optronics system comprising: a first (sensor within element 27) and second (sensor within element 31) element having a target line that can be addressed in a given space; a stabilization mechanism (17); a mechanical structure (12) designed to be an interface with a carrier (10); a module (11) forming a section with three interfaces (See Fig. 2), one of said interfaces (12) interfacing with the carrier (10); two other lateral interfaces (one interface between 22 and 31, the other between 23 and 32) receiving one of two lateral modules (31 and 32), a following cowl that is spherical (27), with a porthole (28), and mounted in a way as to be mobile relative-bearing-wise (See Fig. 5), but does not disclose all of the specifics of the optics system or modular interchangeability. Woodland teaches a modular optronics system with a first optronics element (4) being a camera (4, "standard video sensor means" See Column 7, Lines 4-5), a second optronics element (5) being a laser source ("laser ranging sensor means" See Column 7, Lines 5-6), accessibility through a hatch and upgradeable ("rapid access sensor pod", Column 7, Lines 25-32), and the modules

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are constructed based given specification of given missions (See Fig. 12 interchangeable components for different missions). At the time of invention, it would have be obvious to one of ordinary skill in the art to provide the system of Syms et al. with the modular, upgradeable, and interchangeable system of Woodland. The resulting system would use the teaching of the optical sensors (Standard video sensor means and laser ranging sensor means) for use in a modular system in Woodland to replace the radar and optical devices of Syms et al. In other words 4 and 5 of Woodland could be used in the spaces provided in 27 and 31 of Syms et al. The motivation for doing so would have been to make the optronics system of Syms et al. capable of performing many different mission scenarios.

3. With regard to claims 20, 24, 25, 29, and 30 Woodland discloses, an upgradeable system (See interchangeable parts, i.e. upgradeable, in Fig. 12), spectral wavelength optimizing portholes ("thermal-infra red", Column 6, Line 67), along with an environmental control module (Column 15, Lines 5-6), and transmitting information to the ground (Column 7, Line 7).

4. With regard to claim 27, 28, 29, 30, 31, and 32 Syms et al. discloses lateral interfaces that can receive other modules one of the modules being a fairing to optimize the aerodynamic shape of the system (See Fig. 2) along with the ability to transmit information to the ground (Column 2, Lines 44-48). In view of the disclosure of Syms et al. and the modular interchangeability of Woodland it would be obvious to one of ordinary skill in the art to include modules for recording data, holding an optronics

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element, transmitting information to the ground, or holding environmental controls; the types of modules being necessitated by the mission at hand.

5. With regard to claims 33, 34, and 35, Syms et al. discloses a drone equipped with an optronics system, but does not disclose disposing the optronics system in a fuel tank or having landing gear modules. Because of the modular nature of the optics system it would be obvious to place the central module anywhere on an aircraft, including in the middle of a fuselage, or in a fuel tank. The motivation for doing so would be to balance the aircraft, this would be especially critical for a small drone where the weight of the optics system could be considerable.

6. With regard to claim 37, the interface with the carrier is inherently capable of providing a mechanically rigid connection by holding orientation motor (17) still.

7. **Claims 21-23 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Syms et al. and Woodland as applied to claims 19 and 25 above, and further in view of Johnson et al. (US Patent 6,424,804 B1).** Syms et al. and Woodland disclose the modular optronics system described above, but do not disclose the following cowl being retractable. Johnson et al. discloses a retractable cowl (See Fig. 6), with the orientations and stabilization mechanism fixed on a platform (14) suspended in the cowl. At the time of invention, it would have been obvious to one of ordinary skill in the art to provide the optronics system of Syms et al. with a retractable cowl and platform for optronics. The motivation for doing so would have been to make the aircraft more aerodynamic when the optronic system was not in use.

Response to Arguments

8. Applicant's arguments filed 03/06/2009 have been fully considered but they are not persuasive. On page 7 of the remarks section in paragraph 5, Applicant states that "Syms does not disclose or suggest that the claimed stabilization mechanism is directly incorporated in the module forming a section". Element 11 of Syms et al. incorporates a few different parts and when assembled the stabilization mechanism (17) is within the module (11). Looking at Figure 2, if the module forming a section is taken to be elements 22, 21 and 23 (parts of 11) then the section incorporates the stabilization mechanism.

9. On page 7, of the remarks section in paragraph 6, Applicant states that the "rapid access" applies to the pod which can be accessed through the aircraft door but does not apply to the optronics elements which are fixed in the pod. This is not true, Column 7, lines 25-32 specifically says: "a larger rapid access sensor pod main sensor sectional panel 5, shown in Fig. 6". Elements 5 and 6 of Woodland provide access to the module through a panel.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian M. O'Hara whose telephone number is (571)270-5224. The examiner can normally be reached on Monday thru Friday 10am - 5pm except the first Friday of every Bi-week.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael R. Mansen can be reached on (571)272-6608. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael R Mansen/
Supervisory Patent Examiner, Art Unit 3644

/B. M. O./
Examiner, Art Unit 3644